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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Michael Gieseler

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EXAMINER

CURS, NATHAN M

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/560,458	<b>Applicant(s)</b> GIESELER ET AL.	
	<b>Examiner</b> NATHAN M. CURS	<b>Art Unit</b> 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7 is/are rejected.
- 7) ☒ Claim(s) 6, 8 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/05, 5/06</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "upstream comparator" from claim 1, and the "comparator" from claim 5 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

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Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a) because figs. 1 and 2 show unlabeled square/rectangular symbols that are not conventional in the art. These symbols must be labeled according to their description in the specification, since any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

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informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

4. Claims 7-9 are objected to because of the following informalities:

Claim 7 line 3 should be changed as follows for consistency: ...a second ~~impulse~~ pulse...

Claim 8 should be changed as follows for clarity: in line 3 ...to ~~[[an]]~~ a primary input ~~"Input"~~ whose...; in line 6 ...a second ~~output~~ input of the logical NAND...; in lines 7-8 ...~~[[an]]~~ a primary output of the delay arrangement ~~"Output"~~.

Claim 9 should be changed as follows for clarity: in line 3 ...a respective primary input ~~"Input"~~ is connected...; in lines 13-14 ...~~[[an]]~~ a primary output ~~"Output"~~ of the arrangement...

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-4 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 recites a method that is not a patent-eligible process because it is not tied to another statutory class, nor does it transform underlying subject matter to a

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different state or thing (see Memorandum Clarification of "Processes" under 35 USC § 101 at [http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/section\\_101\\_05\\_15\\_2008.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/section_101_05_15_2008.pdf)). The method recites steps (delay, generation, forming, examination, adjustment) without tying the steps to particular machines/apparatuses. Further, although the claim recites an input signal delivered by an upstream comparator, the comparator does not perform any method steps (the delivery act associated with an "input signal delivered" is not a step of the method). Claim 2-4 add further steps and limitations without tying the steps to particular machines/apparatuses.

### ***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 5 each recite "a receiver operating according to the IrDA standard." However, the IrDA "standard" is actually made up of several sets of standards (IrPHY, IrCOMM, IrSimple, etc.), some of which were not finalized until after the Applicant's 35 USC 371 date (e.g. IrSimple). Thus, the scope of the claim is ambiguous because the scope includes standards that were not finalized as of Applicant's filing date.

Claim 5 also recites "An arrangement... wherein the output signals of an upstream comparator" in lines 1-2. The claim then recites "an input of the

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arrangement... for supply of a comparator signal" in lines 4-5. The comparator is either part of the arrangement or has no limiting effect on the arrangement; it's not clear which from the claim language. The comparator is included in the first "wherein" clause of the arrangement, but is then made external to the arrangement in the second "wherein" clause when the input of the arrangement is supplied with a comparator signal.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ransijn (US Patent No. 5014286) in view of Holcombe (US Patent No. 6240283), and further in view of Beard (US Patent No. 5838471).

Regarding claim 1, Ransijn discloses a method for forming reception pulses in an optical receiver wherein output signals of an upstream detector that recognizes light pulses are newly formed and output as pulses (fig. 1 elements 11 and 12 and col. 3 lines 20-29) for evaluation by means of a downstream arrangement (fig. 1 the arrangement of elements 13 and 14 and col. 3 lines 20-41, where the sample and decoding circuit evaluates the received pulses), wherein: in a first step, an input signal delivered by an upstream amplifier is delayed (fig. 1 delay 15 delays the signal from amplifier 12; col. 3 lines 30-35); generation of a time reference controlled by the input

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signal is started (fig. 1 element 14 and col. 3 lines 20-31, where the recovered clock signal is a time reference controlled by the input signal); controlled by the input signal delayed in the first step, forming of an output pulse is started (fig. 1 and col. 3 lines 20-29, where the recovered data output signal comprises output pulses and is controlled by the delayed input signal by way of the clock recovery circuit's control of the sample and decode circuit); upon completion of the generation of the time reference, an examination of a level of the input signal is conducted (fig. 1 element 13 and col. 3 lines 29-30, where the sample and decoding circuit examines the level of the input signal dependent on the recovered clock). Ransijn discloses detecting and amplifying the received signal (fig. 1 element 11 and 12), but does not disclose that the optical receiver operates according to IrDA, and does not disclose an upstream comparator recognizing the light pulses. Holcombe discloses an improved noise immunity IrDA receiver that has a comparator recognizing light pulses (fig. 1 and col. 1 line 66 to col. 2 line 61). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a comparator-based IrDA receiver like that of Holcombe in place of the basic receiver arrangement of Ransijn, to provide the benefit of receiving infrared transmissions with improved noise immunity.

Also, the examination of the level of the input signal in Ransijn does not carry out a back-reference to duration of the output pulse, and the duration of the output pulse is not adjusted subject to results of the examination. Beard discloses infrared data transmission according to IrDA including receiving a signal and feeding the signal to an IrDA decoder which adjusts pulse widths by decompressing the signal pulses back-



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referenced to compressed pulses (fig. 1 and col. 2 line 65 to col. 3 line 12 and col. 3 lines 25-31). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the existing decoder of the combination, using a decoder like that of Beard which decompresses the received pulses back-referenced to their compression, to provide the benefits of accepting power-saving compressed IrDA pulses with robust recovery of the data through decompression.

Regarding claim 3, the combination of Ransijn, Holcombe and Beard discloses the method according to claim 1, wherein the generation of the time reference is started by the input signal or the input signal delayed in a first partial step (Ransijn: fig. 1 element 15, where the delaying is a first partial step in the clock recovery).

11. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akashi (US Patent Application Publication No. 2002/0154373) in view of Nishizono et al. ("Nishizono") (US Patent Application Publication No. 2004/0075484).

Regarding claim 5, Akashi discloses an arrangement for forming reception signals in an optical receiver (fig. 1) wherein the output signals of an upstream comparator that recognizes light pulses are newly formed (fig. 1 element 2R Regenerator 1, which recognizes light pulses and compares them to a threshold, paragraphs 0003-0004) for evaluation by a downstream arrangement (fig. 1 element Bit synchronizer 2 and paragraphs 0005-0009), wherein an input of a delay arrangement is connected to an input of the arrangement for forming reception pulses INP, for supply of a comparator signal (fig. 1, the input of the delay arrangement made up of elements

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200-20n and 210-21n, coming from element 12), wherein a first output of the delay arrangement is connected to a first input of a down stream output pulse producing arrangement (fig. 1, the output of element 200 of the delay arrangement is input to the output pulse producing arrangement made up of elements 21, 220-22n and 22) and a second output of the delay arrangement is connected to a time reference generating arrangement (fig. 1, the output of element 211 of the delay arrangement is input to the time reference generating element 20, paragraph 0008-0009, where detecting change points of the input signal and outputting a result reads on generating a time reference), wherein an output of the time reference generating arrangement is connected to a second input of the output pulse producing arrangement (fig. 1 time reference element 20 connected to element 21 of the output pulse producing arrangement) and, wherein an output of the output pulse producing arrangement is connected to the output of the arrangement for forming reception pulses (fig. 1 the output of the selector as the output of the fig. 1 arrangement). Akashi discloses that the optical receiver is for burst transmission (paragraph 0002), but does not disclose the receiver operating according to the IrDA standard. However, Nishizono discloses that IrDA communications are generally burst signal (paragraph 0019). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the receiver of Akashi for IrDA communications, to provide the benefit of a receiver for IrDA communications that copes with pulse width degradation (Akashi: paragraph 0012).

Regarding claim 7, the combination of Akashi and Nishizono discloses the arrangement according to claim 5, and disclose that the output pulse producing

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arrangement is comprised of a circuit for forming a first pulse (Akashi: fig. 1 element 220), a circuit for forming a second impulse (Akashi: fig. 1 element 221), a circuit for examining the input signal level (Akashi: fig. 1 element 21, where the phase selection determining the center of the detected edges involves examining the high and low signal levels), and a selection circuit (fig. 1 element 22).

### ***Allowable Subject Matter***

12. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claims 8 and 9 are objected as described above and for being dependent upon a rejected base claim, but would be allowable if rewritten to overcome the above objections and rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHAN M. CURS whose telephone number is (571)272-3028. The examiner can normally be reached on 9:00-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/NATHAN M CURS/

Examiner, Art Unit 2613